



Impact Mole Best Practices

Prepared by
Virginia State Corporation Commission
Division of Utility and Railroad Safety
August 2005

Disclaimer of Liability

The following presentation is provided solely for educational purposes. Nothing contained herein is intended to supersede the existing State law or Commission regulations. Persons seeking a legal reference should utilize the Code of Virginia itself. The State Corporation Commission does not assume any responsibility for the acts or conduct resulting from any person who has viewed this presentation.

General Practices

- Follow all applicable portions of the State Corporation Commission's Rule 20VAC5-309-150. *Requirement for Trenchless Excavation.*
- Prior to setting up any bore operation, pothole all applicable utilities using the State Corporation Commission's Division of Utility and Railroad Safety's Hand Digging Best Practices.
- Steerable mole units and mole units equipped with radio transmitting sondes are preferred if available. (Radio sondes are more effective when fitted to the front of the unit.)
- Limit the use of an impact mole according to soil conditions on the site, the proximity to existing utilities, other impediments, and type of installation.

Setting up an Impact Mole

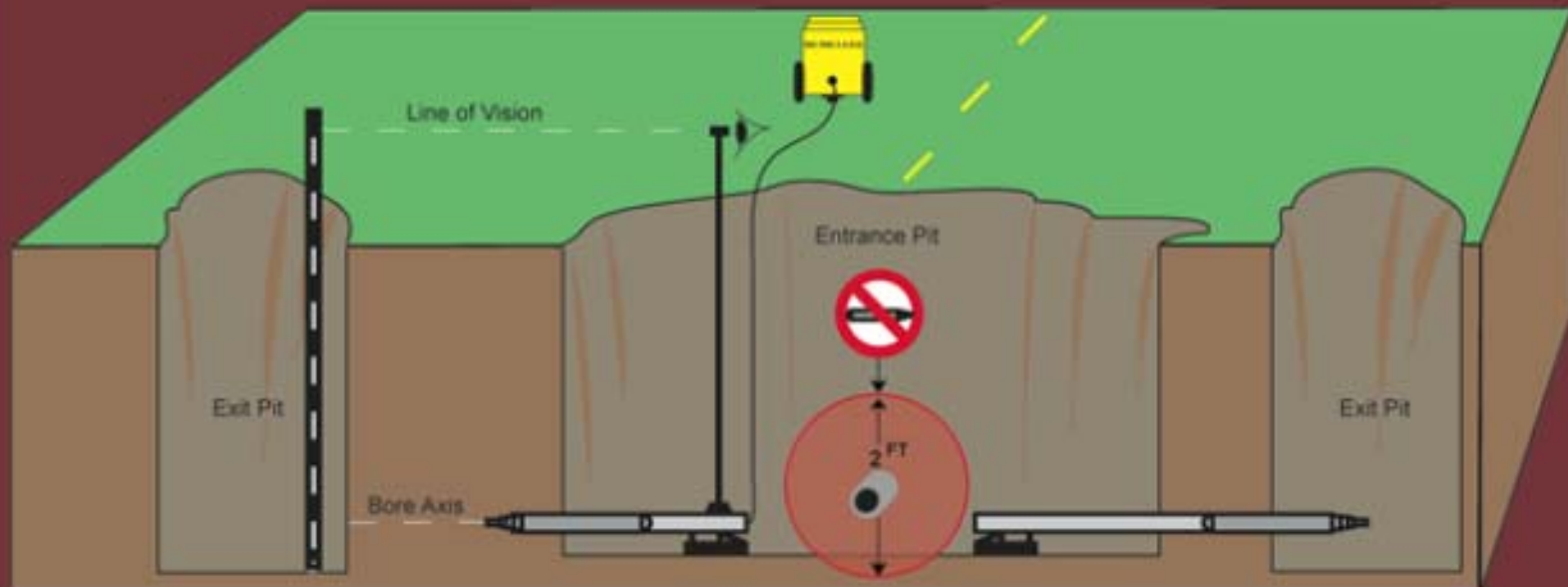
- Always follow the manufacture's guidelines for setting up and operating your make and model of impact mole (also referred to as missile bores).
- The maximum distance between launch pits and reception pits should not exceed the manufacturer's specifications, or the known limit of control of the device.
- The recommended working depth of the mole should be at least 10 times the diameter of the mole unit, considering the known depth of existing utility lines.
- Use a launch cradle during set up.
- Use a sighting telescope in the launch pit and a ranging rod in the reception pit to establish the initial line of the bore path and ensure horizontal accuracy. This step should be repeated half way through the mole insertion.

During Impact Mole Operation

- Visually check the mole unit as it passes through potholes, and exit pits.
- Provide proper support and protection for all exposed utility lines.
- Take all reasonable actions to maintain the direction and location of the mole unit and monitor the length of hose used. If at any time during the bore, the location of the mole is unknown, cease boring activity until the location of the mole can be determined, and the mole can be recovered by hand or soft excavation.

Perpendicular Bores

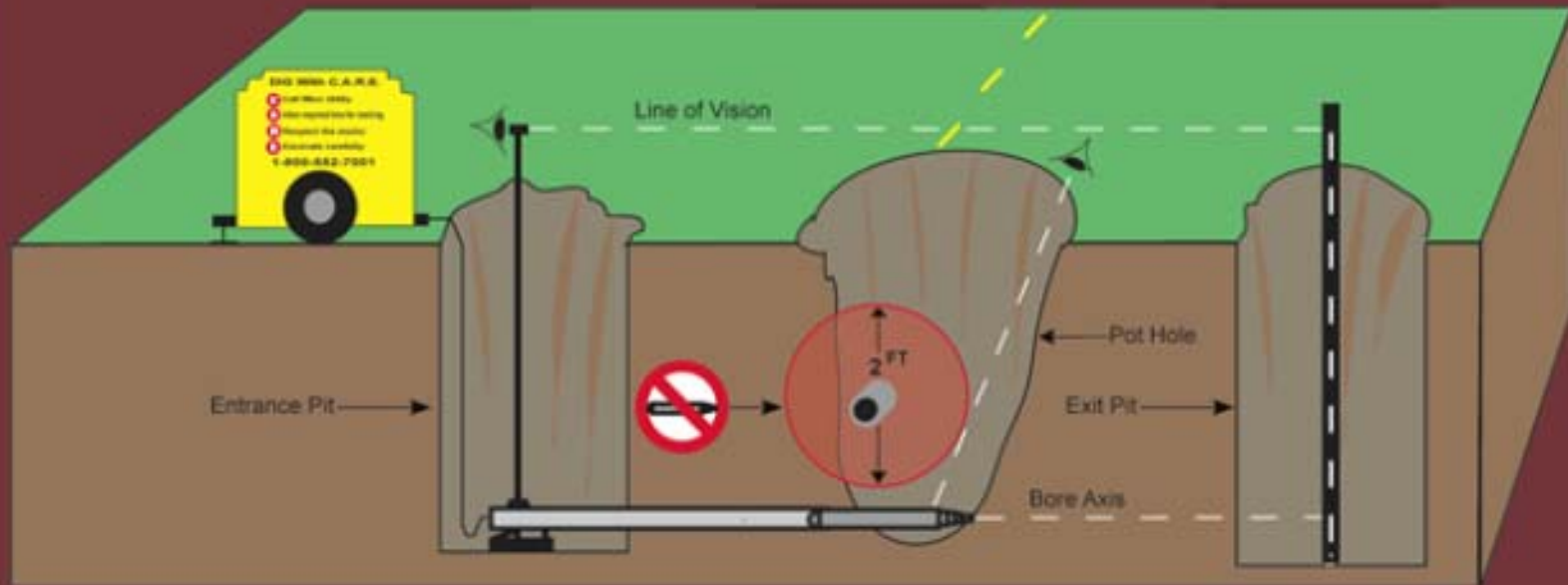
- Maintain a two foot clearance zone from exposed utility lines and bore away from exposed utility line when possible.



Note: Illustration is not to scale.

Perpendicular Bores

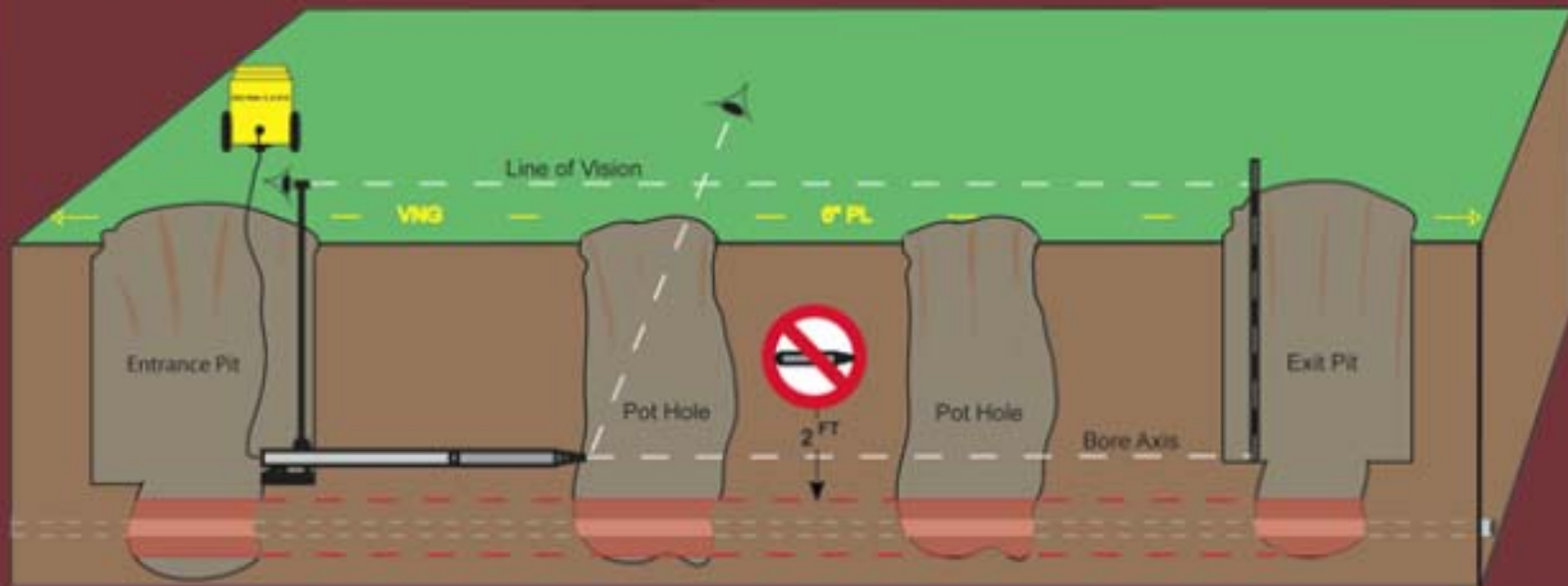
- If boring away from exposed utility lines is not possible, maintain a two foot clearance zone between existing utility lines and the mole unit during the bore operation.
- Visually check the mole unit as it passes through potholes, and exit pits.



Note: Illustration is not to scale.

Parallel Bores

- Pothole existing utility lines following the Hand Digging Best Practices at reasonable distances along the direction of the bore path to ensure the location of the utility lines before commencing the bore.
- Maintain a two foot clearance zone between existing utility lines and the mole unit during the bore operation.



Note: Illustration is not to scale.



The End